D. Chronic Diseases

Chronic disease involves a wide range of diverse disease processes. In general terms, it refers to a disease with "a prolonged course, that does not resolve spontaneously, and for which a complete cure is rarely achieved."[1]

Healthiest Wisconsin 2010, the state public health plan, includes 11 health priorities. Eight of the 11 health priorities relate to achieving reductions in the incidence or the consequences from selected chronic conditions addressed in this section. For example, overweight, obesity, and lack of physical activity are associated with heart disease, stroke, diabetes, colorectal cancer, and asthma. Excessive use of alcohol has been identified as a risk factor for some kinds of cancer (especially in combination with cigarette smoking) and possibly for heart disease and stroke. Education and income relate to the prevalence of some health risking behaviors, but they appear to also have an independent effect on some chronic health conditions, such as heart disease.

Significant differences by race/ethnicity, as well as gender and age, exist for many chronic conditions. The onset of many chronic diseases results from accumulated exposure to multiple risk factors over an extended period of time, so that it is often difficult to determine with precision group differences in exposure to risk. Some chronic diseases, such as heart disease and certain types of cancer, may be asymptomatic for many years. Therefore, racial/ethnic differences in mortality due to heart disease or cancer, for example, may result from group differences in the use of health services that can result in early detection with potential for controlling the adverse consequences of a chronic condition, including disability and early mortality.

Mortality data have two major limitations for interpreting racial/ethnic differences in chronic conditions. First, differences in reporting race and ethnic identity exist on death certificates and also in the U.S. Census, which is used to make population estimates. Because of these reporting differences, mortality is underestimated for Hispanics, Asians, American Indians, and to a lesser extent, African Americans. (See Appendix II, Technical Notes for a more detailed discussion of this issue.) Second, mortality data do not represent either the prevalence or the incidence of conditions. People with a given condition may die from a different cause and people have conditions that do not result in death. Further, the relationship between having a condition and dying from it may differ substantially by racial/ethnic group.

For most chronic conditions, mandated reporting systems do not exist to track the incidence (numbers of new cases) or prevalence (numbers of existing cases) in the population. One important exception is the Wisconsin Cancer Registry that tracks cases of cancer. Therefore, this section includes information about racial/ethnic differences in the incidence of several site-specific cancers.

For the chronic disease mortality rates reported in this section, statistically significant differences between groups are based on comparison of the racial/ethnic group rate to the white rate, referred to as the disparity ratio. The Technical Notes in Appendix II provide a more detailed discussion about methods used to compute rates and disparity ratios.

Hospitalization data that are shown reflect numbers of discharges and not persons. Therefore, the numbers used to calculate the rates can include multiple hospitalizations by the same person. Differences in utilization patterns by racial/ethnic group may contribute to differences in rates. Although the frequency of hospital admissions for select causes may give some indication of the disease burden in populations, the actual incidence and prevalence of diseases in select populations cannot be determined by looking at inpatient hospital data. Many serious diseases can be managed in an outpatient setting, and many

persons have conditions that are not medically diagnosed and treated.

Coding of race and ethnicity in hospitalization data is less complete than for mortality data. Tables in this section exclude those with unknown race or ethnicity. This could affect hospitalization rates of race and ethnic groups, although there is no information available to assess which groups might be most affected.

For selected chronic diseases, prevalence estimates are provided based on responses to the statewide Family Health Survey. In that survey, people are asked if they have ever been told by a doctor that they have certain chronic conditions. Differences between these self-reported responses and the "true" prevalence may exist because (a) some people with the disease have not been diagnosed; (b) people may inaccurately report prior diagnoses; and (c) some population groups (e.g., the prison population) are not included in the survey.

Appendix III, Table R27 provides estimates for 11 chronic diseases and the sample sizes. Estimates of disease prevalence are based on responses to the Wisconsin Family Health Survey, a representative, statewide survey of the Wisconsin household population, discussed in more detail in the Technical Notes. In the period 1996-2000, African Americans were the only racial minority group specifically over-sampled in the survey; thus there were not sufficient numbers of American Indians, Asians, or Hispanics to report findings for the age group 65 years and over. Self-reports of disease prevalence differ from true prevalence in populations and the relationship may differ for racial/ethnic groups, particularly where differences exist in the prevalence of undiagnosed cases.

Heart Disease

Heart disease encompasses a variety of diseases, including coronary heart disease (ischemic heart disease), diseases of pulmonary circulation, hypertensive disease, rheumatic heart disease, and other forms of heart disease. Ischemic heart disease, which is a decrease of the supply of blood to the heart usually through narrowing of the coronary arteries, accounts for about 70% of all heart disease deaths, although differences exist by racial/ethnic group.[2] Most deaths from heart disease occur among older people and the risk increases with advancing age. However, some of the underlying processes that eventually result in heart disease may begin during childhood.[1(p. 299)]

Risk factors for heart disease include those that are both modifiable and non-modifiable, including:

- High blood cholesterol
- High blood pressure
- Cigarette smoking
- Physical inactivity
- Diabetes
- Obesity
- Family history of heart disease
- Heavy alcohol consumption
- Lower socioeconomic status
- Stress

National Findings

Nationally, heart disease is the leading cause of death. For the combined years 1996–2000, the annual age-adjusted rate of death from heart disease for the U.S. (258 per 100,000 population) was higher than the comparable Wisconsin rate (252 per 100,000). Nationally, the heart disease death rate was highest among African Americans. Compared with whites, heart disease death rates for American Indians, Asians, and Hispanics were lower.

Table 36: Average annual age-adjusted death rates from heart disease by race/ethnicity, U.S. and Wisconsin, 1996–2000

	African American/ Black	American Indian	Asian	Hispanic/ Latino	White	Total
United States	275	175	155	177	273	258
Wisconsin	297	302	131	74	252	252

Source: U.S. data from *Health, United States, 2002, with Chartbook.* Wisconsin data from Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information.

Notes: For the years 1996–1998, ICD-9 codes 390–98, 402, 404, 410–429; for the years 1999–2000, ICD-10 codes 100–109, 111, 113, 120–151.
Rates are per 100,000 age-adjusted to the U.S. year 2000 standard population.

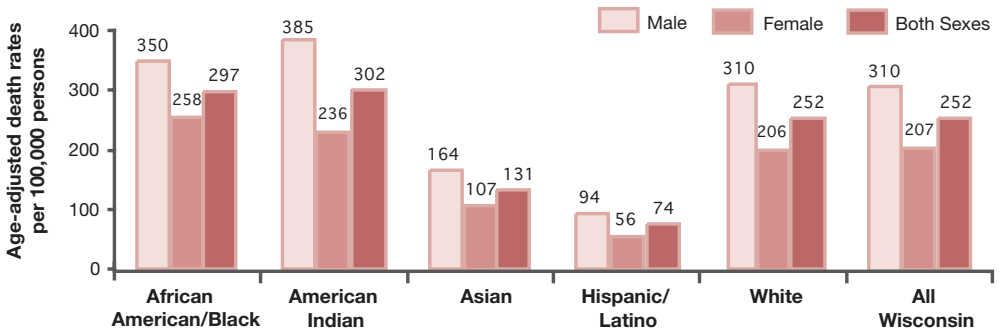
Wisconsin Findings

Among both male and female Asians and among African American and Hispanic/Latino men, heart disease follows cancer as a leading cause of death. Heart disease is the leading cause of death among American Indians and whites. Heart disease is also the leading cause of death among African American women and Hispanic women.

Deaths

- During the period 1996–2000, American Indians and African Americans had the highest age-adjusted rates of death from heart disease in Wisconsin; Asians and Hispanics/Latinos had the lowest rates.
- American Indians died from heart disease at an age-adjusted rate of 302 deaths per 100,000 population; African Americans had a comparable rate of 297 per 100,000. In both groups, age-adjusted death rates from heart disease exceeded the white rate, which was 252 per 100,000.
- Heart disease deaths among Asians (131 per 100,000) and Hispanics/Latinos (74 per 100,000) were below the white rate.
- Statewide and in every group, heart disease death rates were higher for males than females. Nevertheless, heart disease constitutes one of the leading causes of death for women, as well as for men, in all racial/ethnic groups considered in this report (Appendix III, Table R15).

Figure 27: Average annual age-adjusted heart disease death rates by race/ethnicity and sex, Wisconsin, 1996–2000



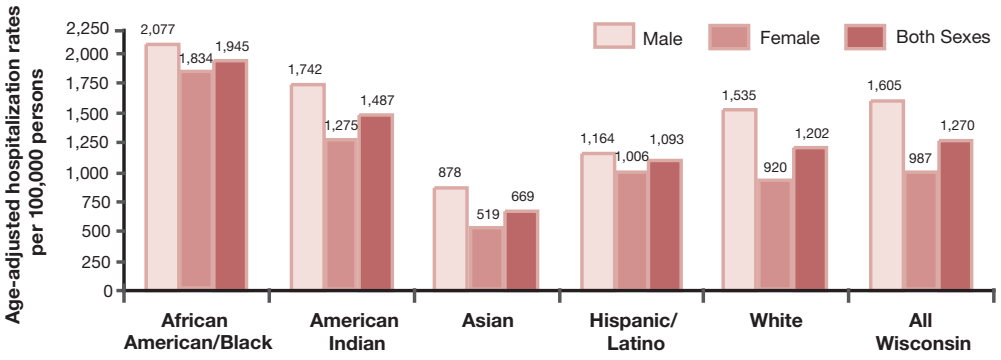
Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: For the years 1996–1998, ICD-9 codes 390–398, 402, 404, 410–429; for the years 1999–2000, ICD-10 codes 100–109, 111, 113, 120–151. Rates are age-adjusted to the U.S. year 2000 standard population.

Hospitalizations

- Based on Wisconsin hospitalizations for 1996–2000, the age-adjusted hospitalization rate with a principal diagnosis of heart disease for African Americans (1,945 hospitalizations per 100,000 population) and American Indians (1,487 per 100,000) exceeded the rates for whites (1,202 per 100,000) and the statewide average (1,270 per 100,000).
- Asians and Hispanic/Latino hospitalization rates with a principal diagnosis of heart disease were below the state average. Hispanic/Latino rates of hospitalization from heart disease (1,093 per 100,000) were higher than among Asians (669 per 100,000).
- Statewide and in every group, men had higher age-adjusted heart disease hospitalization rates than women.

Figure 28: Average annual age-adjusted heart disease hospitalization rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin inpatient discharge data, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on a principal discharge diagnosis of heart disease ICD-9 codes 390–398, 402, 404, 410–429. Rates are age-adjusted to the U.S. year 2000 standard population.

Reported Prevalence of Heart Disease and Heart Attacks

The following findings are based on responses to the Wisconsin Family Health Survey during 1996–2000 (Appendix III, Table R27):

- Approximately 7% of American Indians between the ages of 18 and 64 have been told by a doctor at some time that they have heart disease.
- Three percent of African Americans aged 18 to 64 reported having been told they have heart disease, compared to 0.7% for Asians; 0.7% for Hispanics; and 2.1% for whites.
- Among people 65 and over, 17.2% of African Americans indicated a doctor had told them they had heart disease compared to 16.6% of whites.
- For the age group 18 to 64, 2% or less of the population in any racial/ethnic group reported a doctor had told them they had experienced a heart attack.
- About 10% of African Americans and whites 65 years and older reported being told they had a heart attack.

Stroke

Stroke, or cerebrovascular disease, includes a group of diseases that affect the arteries of the central nervous system. Stroke occurs when an artery in the brain is either ruptured or clogged.[1 (p. 316)] There are two main types of stroke: ischemic stroke, which is caused by a blockage of the arterial blood supply to the brain, and hemorrhagic stroke, which occurs when blood vessels rupture. The burden from stroke exists not only as one of the leading causes of death, but also as a major cause of morbidity and disability.

Hypertension is a major risk factor related to all types of stroke. Other significant risk factors include:

- Diabetes
- Cigarette smoking
- Combination of hypertension, diabetes, and cigarette smoking
- Other cardiovascular disease
- Excessive alcohol intake
- Physical inactivity
- Obesity
- Sickle cell anemia among African Americans
- Previous stroke
- Family history of stroke

National Findings

Nationally, annual age-adjusted stroke death rates for the period 1996–2000 were highest among African Americans; death rates due to stroke were lower for American Indians, Asians, and Hispanics than for non-Hispanic whites. National studies have found significant geographic variation in stroke mortality. Wisconsin death rates due to stroke are higher than comparable national rates for African Americans, American Indians, Asians, and whites; in contrast, death rates due to stroke are lower for Hispanics in Wisconsin than nationally.

Table 37: Average annual age-adjusted death rates from stroke by race/ethnicity, U.S. and Wisconsin, 1996–2000

	African American/Black	American Indian	Asian	Hispanic/ Latino	White	Total
United States	82	40	53	40	60	61
Wisconsin	96	79	60	22	66	67

Source: U.S. data from *Health, United States, 2002 with Chartbook,* Table 30. Wisconsin data from Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information.

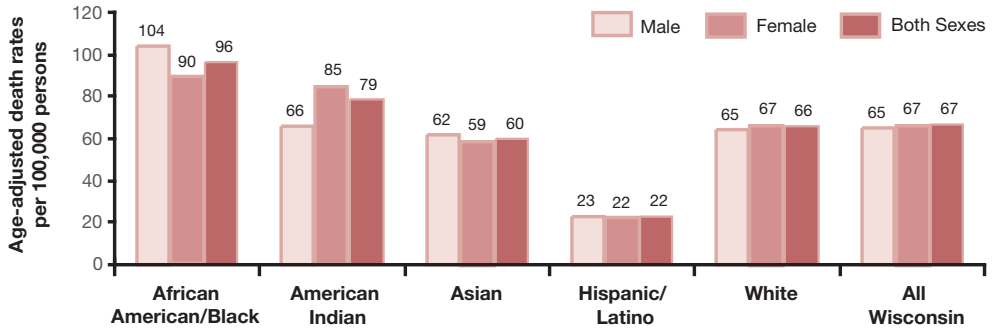
Notes: For the years 1996–1998, ICD-9 codes 430–434,436–438; for the years 1999–2000, ICD-10 codes 160–169.
Rates are per 100,000 age-adjusted to the U.S. year 2000 standard population.

Wisconsin Findings

Deaths

- In Wisconsin, the age-adjusted stroke death rate was highest among African Americans. Their rate of 96 deaths per 100,000 population was about 1.5 times greater than the white rate (66 per 100,000) and the statewide average of 67 deaths per 100,000.
- American Indians in Wisconsin had an age-adjusted death rate of 79 deaths per 100,000. Although the American Indian rate exceeded the white rate, the difference was not statistically significant.
- In comparison to the white age-adjusted stroke death rate, the rate among Asians (60 per 100,000) was somewhat lower, while the Hispanic rate (22 per 100,000) was significantly lower.
- Within racial/ethnic groups, sex differences in age-adjusted stroke mortality are less marked than sex differences previously shown for death rates from heart disease.
- During 1996–2000, African American males had the highest stroke death rate (104 deaths per 100,000). Although based on relatively small numbers, findings for American Indians suggest higher rates among females than males. There was little sex difference in stroke death rates among Asians or Hispanics/Latinos.

Figure 29: Average annual age-adjusted stroke death rates by race/ethnicity and sex, Wisconsin 1996–2000



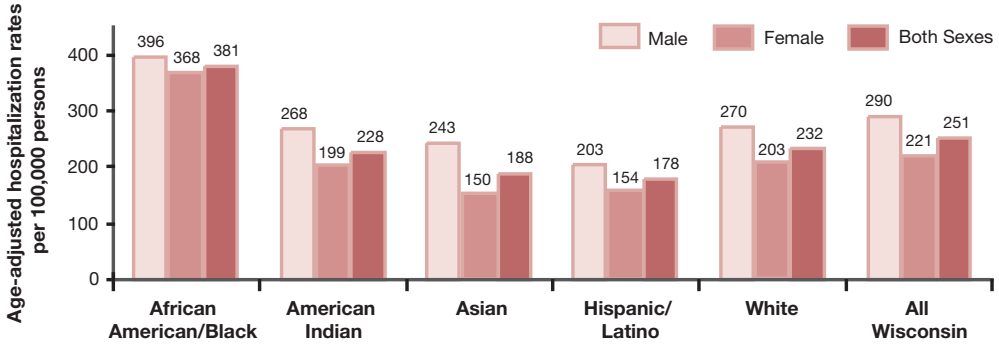
Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: For the years 1996–1998, ICD-9 codes 430–434, 436–438; for the years 1999–2000, ICD-10 codes 160–169.
Rates are age-adjusted to the U.S. year 2000 standard population.

Hospitalizations

- Hospitalizations with a principal diagnosis of stroke were highest for African Americans; the rate was about 1.5 times greater than the statewide average.
- Although the age-adjusted death rate from stroke exceeded the statewide average among American Indians, the hospitalization rate with stroke as the principal diagnosis was somewhat lower.
- Among Asians and Hispanics/Latinos, the age-adjusted hospitalization rate was also lower than the statewide average and the rate for whites.
- In every population group considered in this report, the hospitalization rate with a primary diagnosis of stroke was greater among males than females.

Figure 30: Average annual age-adjusted stroke hospitalization rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin inpatient discharge data, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on a principal discharge diagnosis of stroke ICD-9-CM codes 430–434, 436–438.
Rates are age-adjusted to the U.S. year 2000 standard population.

Reported Prevalence of Stroke

The following findings are based on responses to the Wisconsin Family Health Survey during 1996–2000 (Appendix III, Table R27):

- Less than 2% of people (all ages and both sexes combined) in any racial/ethnic group have been told by a healthcare professional they had a stroke.
- However, among persons aged 65 and over, 14% of African Americans reported a stroke in contrast to 7% of the white population.

Cancer

Cancer is a diverse group of diseases characterized by uncontrolled growth and spread of abnormal cells. If untreated, malignant cancer cells tend to invade and displace normal tissue. Cancer is the second overall leading cause of death following heart disease in the United States and in Wisconsin. However, for the period 1996–2000, cancer was the first leading cause of death in the state among African Americans and Asians.

There are various risk factors related to cancer depending on the cancer type. However, all cancers are linked by the fact that most cancers begin as genetic changes at the cellular level. The development of a cancer appears to involve an accumulation of genetic damage, leading to an abnormal clone of cells with a "selective advantage" over normal cells that allows them to invade the surrounding tissue and in some cases metastasize (spread) to other areas of the body. Hundreds of cancer genes have now been identified. However, only a few have been identified that definitely relate to an individual's risk of cancer. These include the BRCA genes for breast and ovarian cancer, the APC and HNPCC genes for colorectal cancer, and the Rb gene for familial retinoblastoma. Cancer, like all diseases, results from a complex interaction of genetic susceptibility and broadly defined environmental factors that include infectious, behavioral, chemical, and physical causes.[3, 4]

Estimates suggest that approximately 30% of cancer deaths are attributed to tobacco use and exposure.[1(p.341)] Additional estimates note that approximately 4% of U.S. cancer deaths are due to occupational causes, 3% are due to alcohol, 5% are due to infectious causes, 2% are due to sunlight, and less than 1% are due to exposure to drugs. In total, about 47% of cancers are believed to have an identifiable cause from among these noted factors.[5]

Moreover, it is estimated that at least one-third of cancer deaths are related to lifestyle factors such as nutrition and physical inactivity factors that are modifiable.[6] The most widely accepted estimate on the role of pollution in air, water, and soil is that it leads to between 2% to 5% of all cancers. In all, about 90% of all cancers are thought to be preventable.[5]

National Findings

- African Americans as a group have a higher risk of developing and dying from cancer than people in other racial or ethnic groups. African American males have particularly high incidence rates for all cancers combined, as well as for lung, prostate, and colorectal cancers.[6]
- Although Wisconsin's overall annual age-adjusted death rate from cancer (198 per 100,000) was below the national average (204 per 100,000) for the period 1996–2000, Wisconsin cancer rates among African Americans and American Indians were higher than the comparable national rates.

Table 38: Average annual age-adjusted death rates from all cancers by race/ethnicity, U.S. and Wisconsin, 1996–2000

	African American/ Black	American Indian	Asian	Hispanic/ Latino	White	Total
United States	257	130	126	124	205	204
Wisconsin	279	231	129	64	197	198

Source: U.S. data are from *Health, United States, 2002*, Table 30. Wisconsin data are from Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information.
Table prepared by the Wisconsin Division of Public Health.

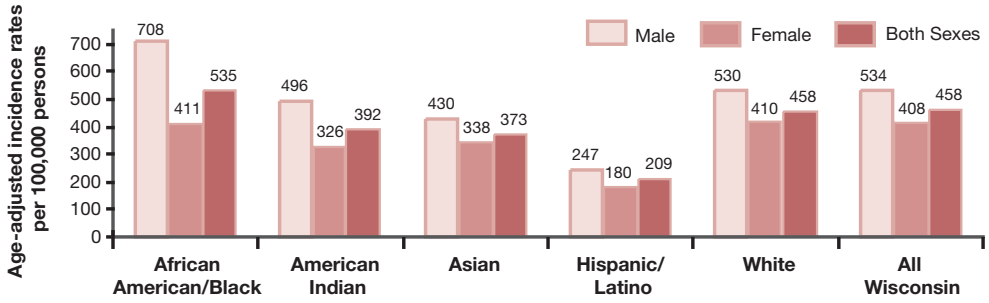
Note: Rates are age-adjusted to the U.S. year 2000 standard population.

Wisconsin Findings

Incidence

- In every racial/ethnic population, males were more likely to be diagnosed with cancer than women. The highest age-adjusted rate of cancer incidence existed among African American men. On average, 708 new cases per 100,000 population were diagnosed annually; in comparison, the cancer incidence rate for white men was 530 per 100,000.
- Male cancer incidence rates among Asians (430 per 100,000) and Hispanics (247 per 100,000) were significantly lower than the white male rate, based on calculated disparity ratios (Appendix III, Table R22). Among American Indian men, the annual incidence rate from cancer was lower than for whites, although the difference was not statistically significant.
- In every racial/ethnic group, women had lower rates than men of cancer incidence, as well as death rates due to cancer. While differences were not significant between African American and white women in incidence rates of overall cancer (408 and 410 per 100,000 population, respectively), cancer mortality was significantly higher among African American women. Cancer incidence rates among American Indian, Asian, and Hispanic women were lower than among white women. (See Appendix III, Table R22 for disparity ratios.)

Figure 31: Average annual age-adjusted total cancer incidence rates by race/ethnicity and sex, Wisconsin, 1996–2000



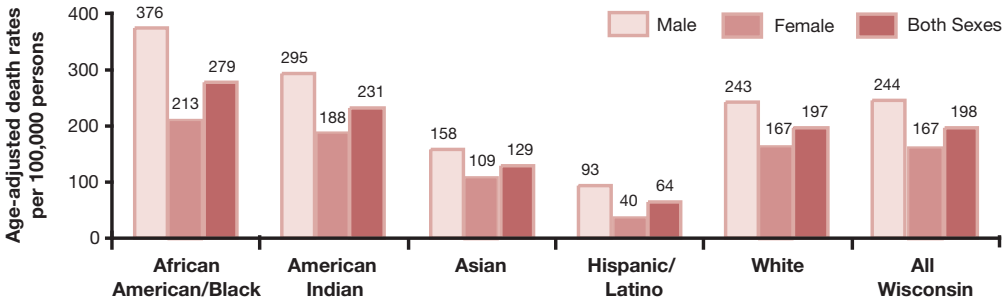
Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information.
Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 site codes C00–C809.
Rates are age-adjusted to the U.S. year 2000 standard population.

Deaths

- The overall age-adjusted cancer death rates in Wisconsin during 1996–2000 were as follows: African Americans, 279 deaths per 100,000 population; American Indians, 231 per 100,000; Asians, 129 per 100,000; Hispanics/Latinos, 64 per 100,000; whites, 197 per 100,000; and total population, 198 per 100,000.
- African Americans and American Indians in Wisconsin were significantly more likely to die from cancer than whites. Excess cancer mortality was particularly pronounced among African American and American Indian men.
- In Wisconsin, similar to the national pattern, rates of overall cancer mortality were lower among Asians and Hispanic than among whites.

Figure 32: Average annual age-adjusted total cancer death rates by race/ethnicity and sex, Wisconsin, 1996–2000

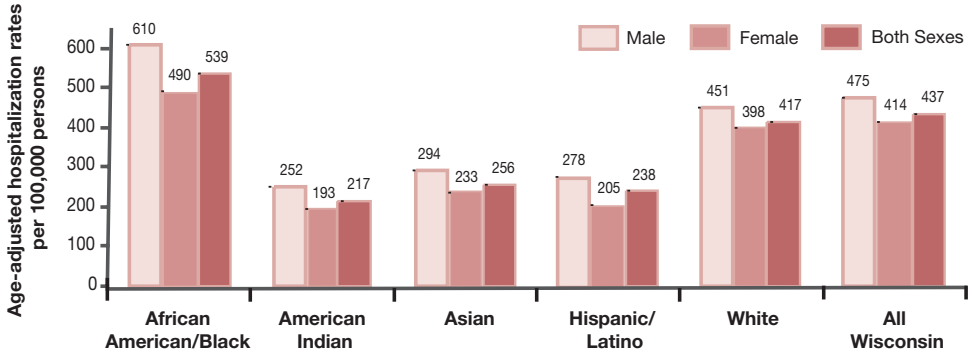


Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information.
Notes: Based on ICD-9 site codes 140–208 and ICD-10 site codes C00–C97.
Rates are age-adjusted to the U.S. year 2000 standard population.

Hospitalizations

- Compared to other racial/ethnic groups, African Americans had the highest probability of being hospitalized for cancer. Between 1996 and 2000, African Americans in Wisconsin averaged 539 annual hospitalizations per 100,000 population with a principal diagnosis of cancer.
- Hospitalization rates due to cancer were lower for American Indians, Asians, and Hispanics/Latinos than for African Americans or whites.
- In every racial/ethnic group, men were more likely than women to be hospitalized because of cancer.

Figure 33: Average annual age-adjusted total cancer hospitalization rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin inpatient discharge data, Wisconsin Department of Health and Family Services, Bureau of Health Information.
Notes: Based on a principal diagnosis at discharge of cancer, ICD-9-CM site codes 430–434, 436–438.
Rates are age-adjusted to the U.S. year 2000 standard population.

Site-Specific Cancers

Some racial and ethnic groups appear to be at greater risk for some cancers. For example, African American men have the highest incidence of prostate cancer in the world. Liver cancers tend to be more prevalent among Asians, possibly related to the higher incidence of chronic hepatitis B in this population.

Some racial/ethnic differences in site-specific cancers are masked when ethnic groups are collapsed into more general categories, such as the inclusion of all people with Asian heritage into a single group. Thus, state data for Wisconsin may not portray some of the racial/ethnic group differences that would be observed if more detailed data were available. Studies based on national data have found that cervical cancer incidence rates in Vietnamese women are 5 times higher than the rate among white women. Other site-specific cancers not addressed in this report have been found to vary by racial/ethnic group. For example, Hispanic Americans and Korean men appear to have a higher incidence of stomach cancers.[7]

This section presents incidence and mortality information about the following cancers: lung, colorectal, female breast, cervical, and prostate. Tables R21 and R25 in Appendix III provide detailed data on cancer incidence and mortality by race/ethnicity for these primary sites. Tables R22 and R26 show disparity ratios for site-specific cancer incidence and mortality that compare racial/ethnic minority group rates to the comparable white rates for specific cancer sites.

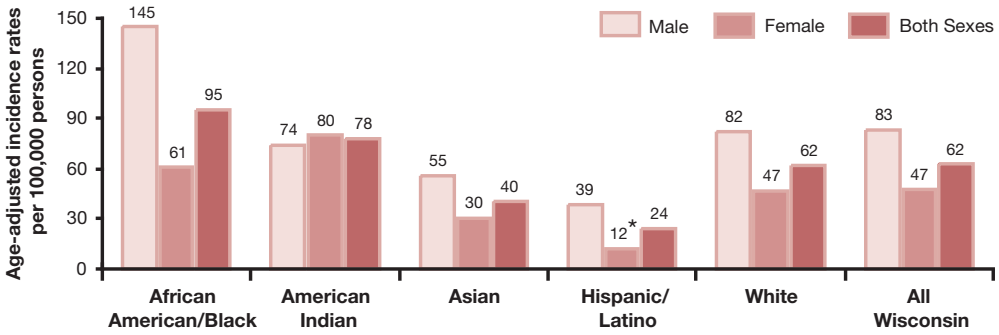
Lung Cancer

Cigarette smoking is strongly associated with lung cancer; estimates indicate that more than 85% of lung cancer cases are attributable to smoking.[1(p. 345)]

Incidence

- African American men had the highest rate of newly diagnosed lung cancer cases. Their incidence rate, 145 cases per 100,000 population, was well above the rate for white men (82 cases per 100,000) in Wisconsin.
- The age-adjusted rates of lung cancer incidence among Hispanic men (39 cases per 100,000) and Asian men (55 per 100,000) differed significantly from those among white men (82 per 100,000). Differences between American Indian and white men in lung cancer incidence rates were not statistically significant.
- Among women, the incidence rate of reported lung cancer was notably higher for American Indians (80 per 100,000) than all other racial/ethnic groups. African American women followed American Indian women in relatively high rates of age-adjusted rates of lung cancer incidence. Based on age-adjusted rates, Asian and Hispanic women were less likely to be diagnosed with lung cancer than white women.

Figure 34: Average annual age-adjusted lung cancer incidence rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 site codes C340–C349.

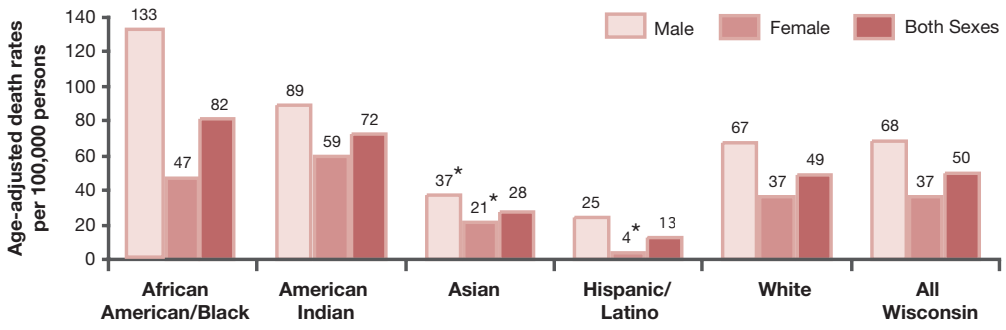
Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 cases.

Deaths

- Lung cancer accounted for one-fourth of all Wisconsin cancer deaths between 1996 and 2000. Relative to other forms of cancer, lung cancer accounted for a larger proportion of all cancer deaths in African American and American Indian populations, and a smaller proportion of all cancer deaths among Asians and Hispanics/Latinos.
- Lung cancer was the leading cause of cancer deaths among men and women in all racial/ethnic groups, with the exception of Hispanic women. Among Hispanic/Latino women, more cancer deaths resulted from breast than lung cancer.
- In all racial/ethnic groups, men had higher age-adjusted death rates from lung cancer than women.
- African American men had the highest age-adjusted rate of death from lung cancer in Wisconsin (133 per 100,000) which is about twice the rate for white men (67 deaths per 100,000).
- American Indian men also had high lung cancer death rates (89 per 100,000), although the difference was not statistically greater than the rate for white men. (See Appendix III, Table R26 for cancer death disparity ratios.)
- Among Hispanic/Latino men, lung cancer mortality (25 per 100,000) was below that for white men.
- Although Wisconsin numbers were relatively small for Asian and Hispanic women, national data indicate that their lung cancer death rates tend to be lower than for other groups.
- On average, fewer than 5 deaths per year due to lung cancer occurred among Asian men, which resulted in an age-adjusted rate of 37 deaths per 100,000 population.
- With the exception of Hispanic women, lung cancer was the leading cause of cancer mortality among women in all racial/ethnic groups. American Indian women had the highest Wisconsin age-adjusted rates of death from lung cancer (59 per 100,000), followed by African American women (47 per 100,000), and white women (37 per 100,000).

Figure 35: Average annual age-adjusted lung cancer death rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9 codes 162; ICD-10 codes C33–C34.

Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

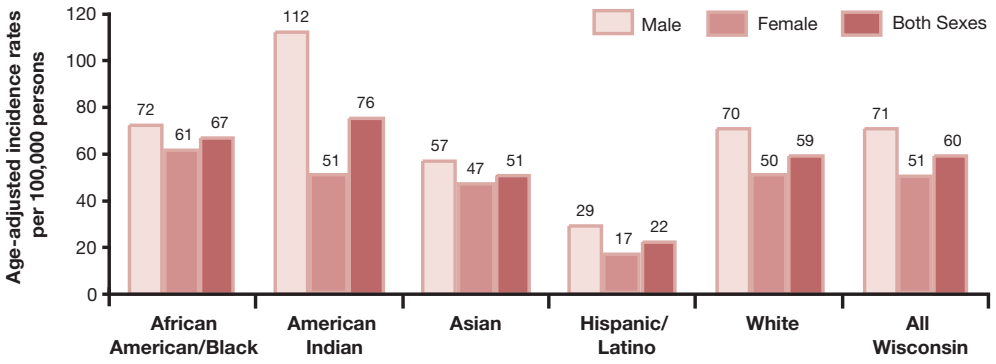
Colorectal Cancer

Screening for colorectal cancer can provide a diagnosis in an early stage of the disease when cures are most effective. Improvements in diet and physical activity can potentially reduce the number of new cases and deaths from colorectal cancer.

Incidence

- Similar to the pattern of mortality for colorectal cancer, age-adjusted incidence rates for this disease were highest among American Indians (76 per 100,000), followed by African Americans (67 per 100,0000).
- Among Asians, the annual rate for newly diagnosed cases of colorectal cancer (51 per 100,000) was lower than the state average by about 15%.
- Men in every racial/ethnic group had a higher probability of being diagnosed with colorectal cancer than women. American Indian men faced the greatest risk of colorectal cancer with an age-adjusted rate of 112 cases per 100,000; the comparable rate for white men was 70 cases per 100,000.
- Among women, African Americans had the greatest risk for colorectal cancer with an annual age-adjusted rate of 61 cases per 100,000. The rate for white women was 50 cases per 100,000.
- Colorectal cancer incidence rates in American Indian and Asian women (51 and 47 cases per 100,000, respectively) were similar to the white female rate.
- Hispanic women were less likely than white women to be diagnosed with colorectal cancer.

Figure 36: Average annual age-adjusted colorectal cancer incidence rates by race/ethnicity and sex, Wisconsin, 1996–2000



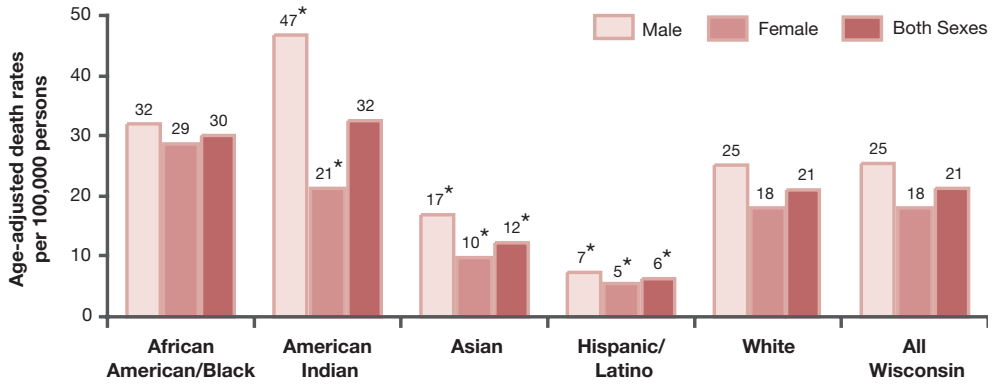
Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 site codes C180–C219.
Rates are age-adjusted to the U.S. year 2000 standard population.

Deaths

- During 1996–2000, colorectal cancer accounted for 11% of all Wisconsin cancer deaths.
- American Indians had the highest age-adjusted death rates from colorectal cancer (33 per 100,000), followed by African Americans (30 per 100,000).
- While numerically few deaths occurred from this cause among Asians and Hispanics in Wisconsin, national data (not shown) suggest that cancer deaths in these two groups tend to be below the national rates.[8]

Figure 37: Average annual age-adjusted colorectal cancer death rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9 codes 153–154; ICD-10 codes C18–C21.
Rates are age-adjusted to the U.S. year 2000 standard population.
*Rate is based on an annual average of fewer than 5 deaths.

Breast Cancer

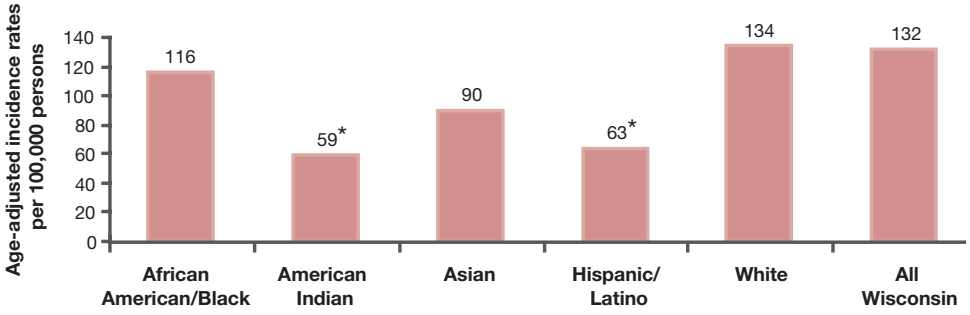
While no single cause of breast cancer has been identified, studies have suggested a number of risk factors. These include: early age of first menstruation or late age at menopause; never having children or first full-term pregnancy after age 30; obesity; high socioeconomic status; and moderate-to-heavy alcohol consumption. [1(p. 351)]

Genetics and family history also play a role in breast cancer, including those women at special risk due to the BRCA1 gene. Breast cancer rates increase significantly with age, especially after the age of 50. Screening (e.g., clinical breast exams, mammograms) increases the probability that breast cancer will be identified during an early stage when treatment is more likely to be effective.

Incidence

- Both African American and white women in Wisconsin were more likely than women in other racial/ethnic groups to receive a diagnosis of breast cancer.
- During 1996–2000, the breast cancer incidence rate among African American women (116 cases per 100,000) was significantly lower than the white rate (134 cases per 100,000), mirroring national trends.
- Among Asian women, the breast cancer incidence rate was 90 cases per 100,000 population, which was significantly lower than the rate for white women.
- There was a relatively small number of breast cancer diagnoses among American Indian and Hispanic women during this time period. However, based on the calculated disparity ratios, which take into account the number of cases, the age-adjusted breast cancer incidence rates among Asians (90 per 100,000) and Hispanic/Latino women (63 per 100,000) were significantly lower than the rate for white women. (See Appendix III, Table R22 for breast cancer incidence disparity ratios.)

Figure 38: Average annual age-adjusted female breast cancer incidence rates by race/ethnicity, Wisconsin, 1996–2000



Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 Site Codes C500–C509.

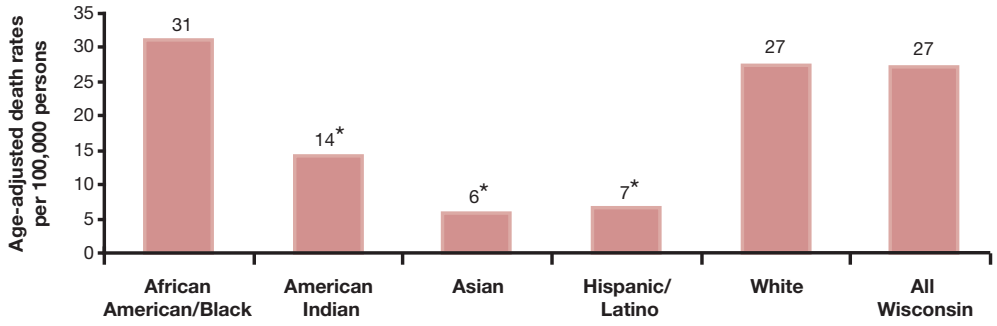
Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 cases.

Deaths

- During 1996–2000, breast cancer accounted for the second most frequently identified cause of cancer deaths among Wisconsin women, with the exception of Hispanic/Latino women where breast cancer death was the first leading cause of cancer death.
- African American women experienced the highest breast cancer death rate (31 per 100,000) relative to other women. The Wisconsin breast cancer death rate among white women (28 per 100,000) was somewhat lower but not statistically different from African Americans. Nationally, however, African American women experience lower incidence but significantly higher death rates from breast cancer than white women.[1(p. 351)] Various factors have been explored to explain this contrast, including possible race differences in stage at diagnosis and patterns of treatment for diagnosed breast cancer.[9]
- Age-adjusted death rates from breast cancer among American Indian, Asian, and Hispanic women were all based on relatively small numbers. However, based on the disparity ratios (Appendix III, Table R26) in each of these groups, the breast cancer death rates were lower than rates for white women.

Figure 39: Average annual age-adjusted female breast cancer death rates by race/ethnicity, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9 codes 174–175; ICD-10 code C50.

Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

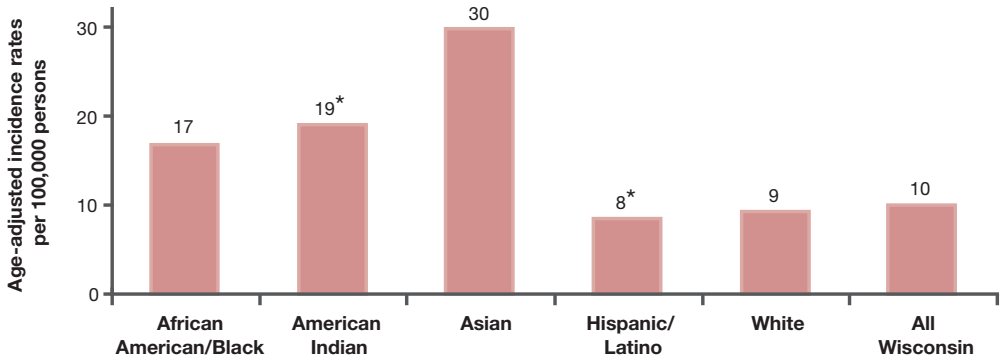
Cervical Cancer

Cervical cancer that is detected in its earliest stages accounts for most of the incidence of cervical cancer. Screening through the Pap test permits early detection, and survival approaches 100% for cervical cancer when it is identified during its premalignant stages. The major risk factors for cervical cancer are multiple sex partners, an early age at first intercourse, a history of genital infection (especially human papilloma virus, or HPV), and cigarette smoking.[1(p. 355-58)]

Incidence

- The highest incidence of cervical cancer in Wisconsin occurred among Asian women. The age-adjusted incidence rate was 30 cases per 100,000, compared to 10 cases per 100,000 for all Wisconsin women. African American and American Indian women in Wisconsin also experienced relatively high rates of cervical cancer.
- African American and American Indian women in Wisconsin were also more likely than white women to be diagnosed with cervical cancer. The age-adjusted rates for cervical cancer incidence were 17 cases per 100,000 among African American women and 19 cases per 100,000 among American Indian women.
- Among Hispanic/Latino women in Wisconsin, relatively few cases of cervical cancer were diagnosed, for a rate of 8 per 100,000 population. This contrasts with national data that has found elevated cervical cancer rates among Hispanics. [1(p. 356)]

Figure 40: Average annual age-adjusted cervical cancer incidence rates by race/ethnicity, Wisconsin, 1996–2000



Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 site codes C53.1.

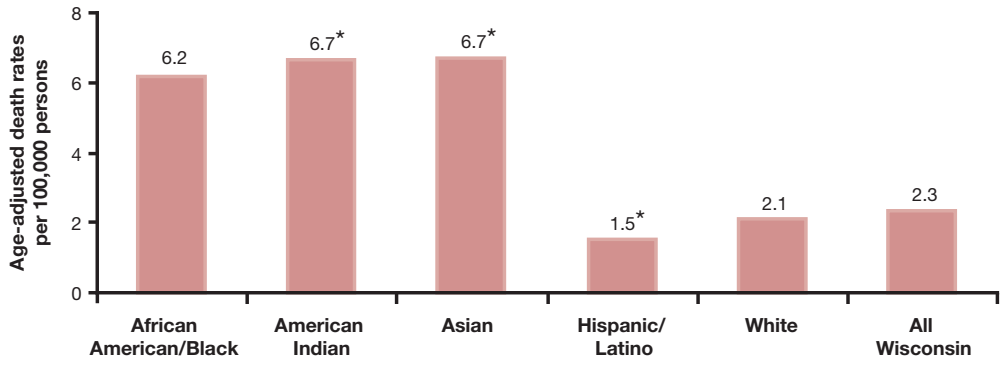
Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 cases.

Deaths

- During 1996–2000, African American, American Indian, and Asian women in Wisconsin were more likely than white women to die from cervical cancer.
- The African American age-adjusted death rate from cervical cancer was 6 deaths per 100,000 population, compared to 2 per 100,000 among whites.
- Although the small numbers of American Indian and Asian women who died from cervical cancer suggest caution in interpreting their age-adjusted death rates, the calculated disparity ratios (Appendix III, Table R26) indicate that the differences are significant.
- The number of Hispanic women who died as a result of cervical cancer was also small. Although, the rate was relatively low, it was not significantly different from the white rate.

Figure 41: Average annual age-adjusted cervical cancer death rates by race/ethnicity, Wisconsin, 1996–2000



Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9 code 180; ICD-10 code C53.

Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

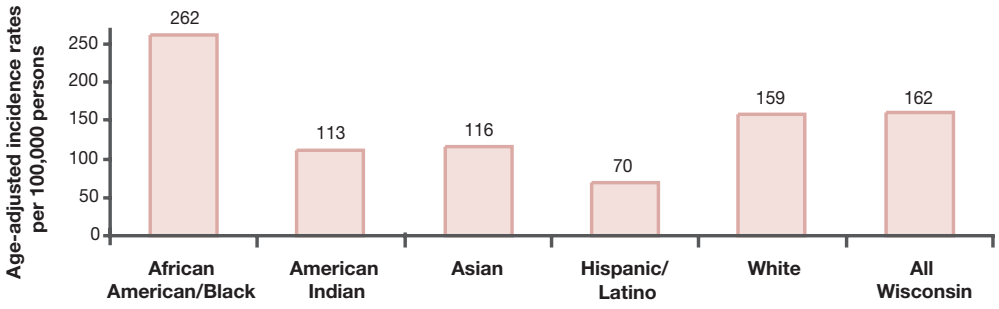
Prostate Cancer

Prostate cancer is the most commonly diagnosed form of cancer among men. The causes of prostate cancer are not clearly understood; both environmental and familial factors may contribute.[1(p. 359)] When prostate cancer is diagnosed early, in the local and regional stages, five-year survival rates are 100%.[6]

Incidence

- In Wisconsin, prostate cancer diagnoses accounted for 32% of all new cases during 1996–2000. With one exception, prostate was numerically the leading cancer diagnosis for men in all racial/ethnic groups. American Indian men were the exception with the number of colorectal diagnoses being somewhat higher than the number of prostate diagnoses (Appendix III, Table R21).
- During 1996–2000, African American men had the highest reported incidence of prostate cancer. The age-adjusted rate, 262 cases per 100,000 population, was significantly above the rate for white men.
- Hispanic/Latino men had the lowest reported incidence of prostate cancer (70 cases per 100,000 population), which was well below the rate for white men. American Indian and Asian men also had lower rates of prostate cancer (113 and 116 cases per 100,000, respectively), compared to white men.

Figure 42: Average annual age-adjusted prostate cancer incidence rates by race/ethnicity, Wisconsin, 1996–2000



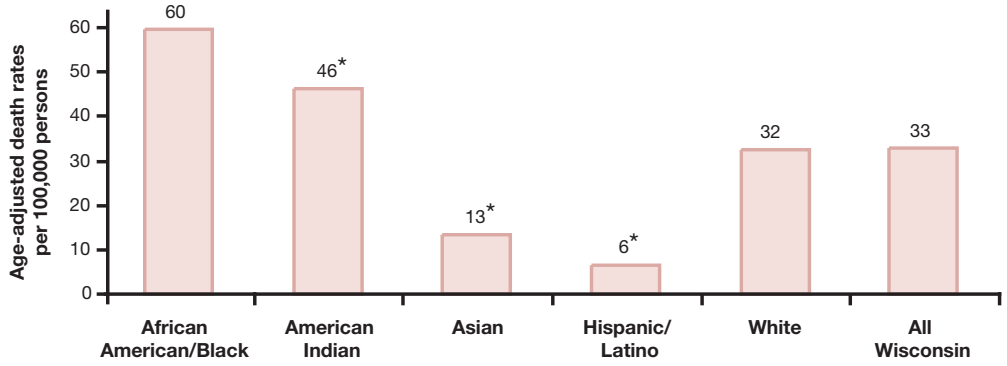
Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-02 site code C619 (excludes ICD-02 histologies 9590–9989-leukemias and lymphomas).
Rates are age-adjusted to the U.S. year 2000 standard population.

Deaths

- African American men had the highest rate of death from prostate cancer in Wisconsin, mirroring national trends. The age-adjusted death rate from prostate cancer was 60 per 100,000 among African American men, which was almost twice the rate of 33 per 100,000 for white men.
- American Indian, Asian, and Hispanic/Latino men had small numbers of prostate cancer deaths. Age-adjusted death rates from prostate cancer among American Indians exceeded those for whites while the rates among Hispanics were lower than for whites. Differences between Asians and whites were not statistically significant.

Figure 43: Average annual age-adjusted prostate cancer death rates by race/ethnicity, Wisconsin, 1996–2000



Source: Wisconsin Cancer Reporting System, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9 code 185; ICD-10 code C61.

Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

Diabetes

Diabetes is a metabolic disease in which the body is unable to sufficiently produce and/or properly use insulin; it is characterized by elevated blood glucose levels.[1(p. 422-23)] There are two major types of diabetes. Type 1 diabetes frequently results from a loss in the ability to produce insulin, and persons must inject insulin for survival. This type of diabetes may account for 5% to 10% of all diagnosed cases of diabetes. The onset of Type 1 diabetes occurs more often during childhood or adolescence, although adults may develop Type 1 diabetes, which has different forms.

Type 2 diabetes is characterized by insulin resistance (i.e., the body cannot make efficient use of available insulin) and/or lack of enough insulin. This type of diabetes accounts for 90% to 95% of all diagnosed cases of diabetes and is more prevalent among adults than children. Multiple factors influence the onset of Type 2 diabetes, but heredity has a strong influence.

National studies indicate that Type 1 and Type 2 diabetes vary in their prevalence by racial/ethnic populations. The prevalence rate of most Type 1 diabetes is higher among whites, but African American and Asian populations have higher risks for some forms of Type 1 diabetes.[1(p. 422-23)] In contrast, rates for Type 2 diabetes are higher among African Americans, American Indians, Hispanics/Latinos, and some Asian-origin groups.[10(p.4-7)] About 35% of all people with diabetes do not have medically diagnosed cases.[1(p. 5)]

Known factors that increase a person's risk of developing Type 2 diabetes include:

- Overweight or obesity
- Physical inactivity
- Cigarette smoking
- Family history of diabetes
- High blood pressure
- Having had a baby weighing greater than 9 pounds
- Age over 40 years
- High cholesterol levels

Severe or poorly controlled diabetes is associated with an increased risk for numerous complications, including heart disease, stroke, blindness, kidney disease, and nerve damage, as well as infections and injury that can lead to amputations. As a result of associated complications, people with diabetes have increased rates of disability and death.[1(p. 422)]

National Findings

Diabetes was the sixth leading cause of death listed on U.S. death certificates in 1999. However, many decedents with diabetes do not have the disease entered on their death certificates, either as a leading or a contributing cause of death.[10(p.7)]

The rates of diabetes death for African Americans, American Indians, and Asians in Wisconsin (53 and 91 per 100,000, respectively) were higher than the national averages for these groups. The rate of diabetes deaths for Hispanic/Latinos in Wisconsin was lower than the national Hispanic average.

Table 39: Average annual age-adjusted death rates from diabetes by race/ethnicity, US and Wisconsin, 1996–2000

	African American/ Black	American Indian	Asian	Hispanic/ Latino	White	Total
United States	49	46	17	33	21	25
Wisconsin	53	91	21*	27	22	23

Source: U.S. data are from Health, United States, 2002. Wisconsin data are from Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information.

Notes: Rates are per 100,000 age-adjusted to the U.S. year 2000 standard population.

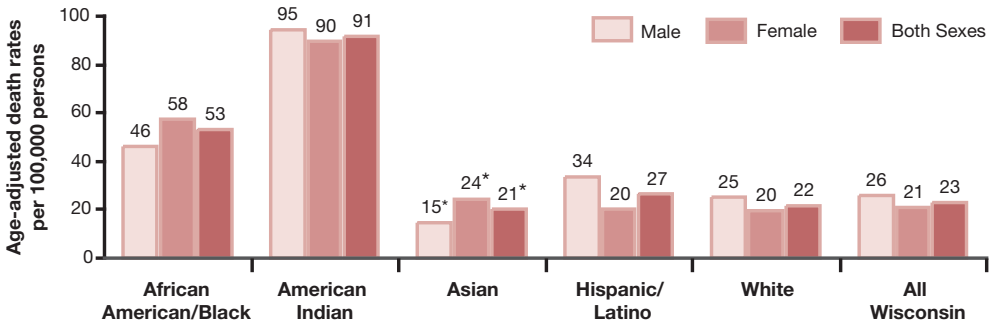
*Rate based on annual average of fewer than 5 cases.

Wisconsin Findings

Deaths

- During 1996–2000, American Indians had the highest rate of death from diabetes in Wisconsin (91 per 100,000). The age-adjusted rate of death from diabetes among American Indians was higher than all other racial/ethnic groups in the state and 4 times higher than the diabetes death rate in the white Wisconsin population (22 per 100,000).
- African Americans in Wisconsin had an age-adjusted diabetes death rate of 53 per 100,000, which is over 2 times higher than the rate of death from diabetes in the white population (22 per 100,000).
- Asians and whites had the lowest age-adjusted diabetes death rates in Wisconsin at 21 per 100,000 and 22 per 100,000, respectively.
- Wisconsin age-adjusted death rates indicate that men are more likely than women to die from diabetes in American Indian, Hispanic/Latino, and white populations. In contrast, African American and Asian women have higher death rates from diabetes than their male counterparts.

Figure 44: Annual average age-adjusted diabetes death rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: For the years 1996-1998, ICD-9 code 250; for the years 1999–2000, ICD-10 codes E-10E14.

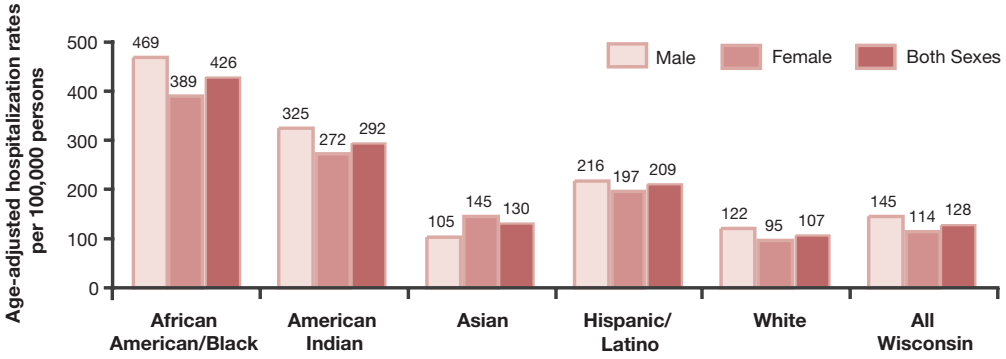
Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

Hospitalizations

- During 1996–2000, African Americans, American Indians, and Hispanics/Latinos had the highest rates of hospitalization with a principal diagnosis of diabetes. In comparison to the rate among whites (107 per 100,00), the African American rate (426 per 100,000) was 4 times higher; the American Indian rate (292 per 100,000) was about 3 times higher than the white rate; and the Hispanic/Latino rate (209 per 100,000) was twice the white rate.
- Among Asians, the rate of hospitalization with diabetes cited as the principal diagnosis for males and females combined was modestly higher than the comparable white rate (130 per 100,000 for Asian males and females compared to 107 for whites).

Figure 45: Average annual age-adjusted diabetes hospitalization rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin inpatient discharge data, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Based on ICD-9-CM code 250.
Rates are age-adjusted to the U.S. year 2000 standard population.

Reported Prevalence of Diabetes

The following findings are based on responses to the Wisconsin Family Health Survey during 1996–2000 (Appendix III, Table R27):

- American Indians and African Americans aged 18 to 64 were most likely to report being told by a health professional that they had diabetes.
- Seven percent of American Indians and 6% of African Americans aged 18 to 64 indicated they had been told they had diabetes compared to 3% of Asians, 2% of Hispanics/Latinos, and 3% of whites.

Notes

1. Brownson RC, Remington PL, Davis JR, eds. *Chronic Disease Epidemiology and Control.* 2nd ed. Washington, DC: American Public Health Association; 1998.
2. Casper ML, Barnett E, Halverson JA, et al. *Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality.* 2nd ed. Morgantown, WV: Office for Social Environment and Health Research, West Virginia University; 2000.
3. Nowell PC. The clinical evolution of tumor cell populations. *Science*. 1976;194:23–28. As cited in: Wallace RB. *Public Health and Preventive Medicine,* 14th ed. Appleton and Lange; 1998.
4. Khoury M. Director Office of Genomics, Office of the Director, Centers for Disease Control and Prevention. Available at: http://www.cdc.gov/genomics/info/perspectives/nvndebate.htm. Accessed December 30, 2003.
5. Wallace RB. *Public Health and Preventive Medicine.* 14th ed. (Maxcy-Rosenau-Last). Appleton and Lange; 1998. Table 50–7.
6. American Cancer Society. *Cancer Facts and Figures 2002.* Atlanta, GA: American Cancer Society; 2003.
7. Miller K, Bernstein Y. R*acial and ethnic patterns of cancer in the US, 1988–92*. Bethesda, MD: National Cancer Institute (NIH Publication No. 96–4104); 1997.
8. National Center for Health Statistics. *Health United States, 2002, with Chartbook.* Hyattsville, MD: US Department of Health and Human Services; 2003. Table 30.
9. Marbella AM, Layde PM. Racial trends in age-specific breast cancer mortality rates in U.S. women. *Am J Public Health.* 2001;91:118–121.
10. Centers for Diseases Control and Prevention. *National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2000.* Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2002. p. 4–7.

E. Unintentional and Intentional Injuries

An injury is "any unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical, electrical, or chemical energy or from the absence of such essentials as heat or oxygen."[1] Examples of unintentional injuries are falls, burns, motor vehicle crashes, poisonings, and drowning. Examples of intentional injuries are suicides, homicides, and assaults such as sexual assault, intimate partner violence, and child or elder abuse. Most injuries are both predictable and preventable.

In Wisconsin, injury is the leading cause of death for individuals aged 1 to 44 years. In children aged 1 to 14 years, it accounts for more deaths than all other causes combined. Because injury affects primarily young people, it results in more than 40% of the years of potential life lost (YPLL) before 65 years.

"Intentional and Unintentional Injuries and Violence" is one of the 11 health priorities of Wisconsin's state public health plan, *Healthiest Wisconsin 2010*. In Wisconsin more than 3,000 residents died from injury-related deaths in 2000, which accounted for over 6% of all deaths in the state. In 2000, accidental deaths were the fifth leading underlying cause of death for all ages combined in Wisconsin and the leading cause of death among males aged 1 to 44 years and females aged 1 to 24 years.

For each injury death, approximately 40 hospitalizations and 1,200 emergency department visits occur. The costs associated with injuries include productive years of life lost in premature death and long-term disability; resources needed for medical care and treatment; and rehabilitation needed for injured persons.

Nationally in 2001, about two-thirds of injury deaths were the result of unintentional (accidental) injuries, and about one-third of injury deaths result from intentional injuries (homicides and suicides). American Indians had the highest age-adjusted all injury rate (71 per 100,000), followed by African Americans (66 per 100,000). The white age-adjusted rate for all injuries was 54 per 100,000, followed by a rate of 27 per 100,000 for Asian and Pacific Islanders.[2]

All Injury

Deaths

- Statewide in Wisconsin, the leading causes of injury death during 1996–2000 were motor vehicle traffic-related crashes, falls, firearms, poisoning, suffocation, drowning/submersion, and death from fire or burns.
- American Indians had the highest age-adjusted injury death rate from motor vehicle traffic-related crashes (28 deaths per 100,000) compared to other racial/ethnic groups. The African American and Hispanic/Latino rates of 9 per 100,000 were the lowest.
- Motor vehicle traffic-related crashes were the leading cause of injury deaths among Asians. On average, 10 deaths occurred annually due to this cause for an age-adjusted rate of 13 per 100,000.
- Deaths attributable to firearms constituted the most frequent cause of injury-related deaths for African Americans in Wisconsin. On average, 82 deaths from firearms occurred each year among African Americans for an annual, age-adjusted rate of 27 deaths per 100,000. In comparison to the white population, African Americans were almost 4 times more likely to die from a firearm-related injury. Most (90%) of African American firearm deaths were among males.

Table 40: Leading causes of injury death, average annual number of deaths and age-adjusted rates by race/ethnicity, Wisconsin, 1996–2000

			African American/ Black	American Indian	Asian	Hispanic/ Latino	White	All Wisconsin
Motor vehicle traffic	Both sexes	deaths[1]	22.6	12.2	9.8	11.6	700.0	756.2
		death rate[2]	8.5	27.6	12.7	9.1	14.3	14.0
Falls	Both sexes	deaths	9.6	2.8	0.8	2.4	526.8	542.4
		death rate	7.1	14.6*	4.2*	4.8*	9.9	9.7
Firearm	Both sexes	deaths	82.0	4.0	4.8	13.2	336.6	440.6
		death rate	26.6	9.1*	7.0*	9.2	7.1	8.4
Poisoning	Both sexes	deaths	27.4	3.4	1.2	7.4	203.0	242.4
		death rate	11.3	8.2*	3.9*	6.1	4.2	4.6
Suffocation	Both sexes	deaths	10.8	1.6	1.6	2.6	123.8	140.4
		death rate	4.2	2.6*	1.8*	2.8*	2.4	2.5
Drowning/ submersion	Both sexes	deaths	6.4	0.6	1.4	1.2	28.2	37.8
		death rate	2.0	1.1*	1.5*	1.1*	0.6	0.7
Fire/burn	Both sexes	deaths	6.4	1.6	0.2	0.8	54.6	63.6
		death rate	2.5	4.6*	0.1*	0.4*	1.1	1.2

Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Table prepared by the Division of Public Health.

Notes: [1]Deaths are the average annual number of deaths over the 5-year period.

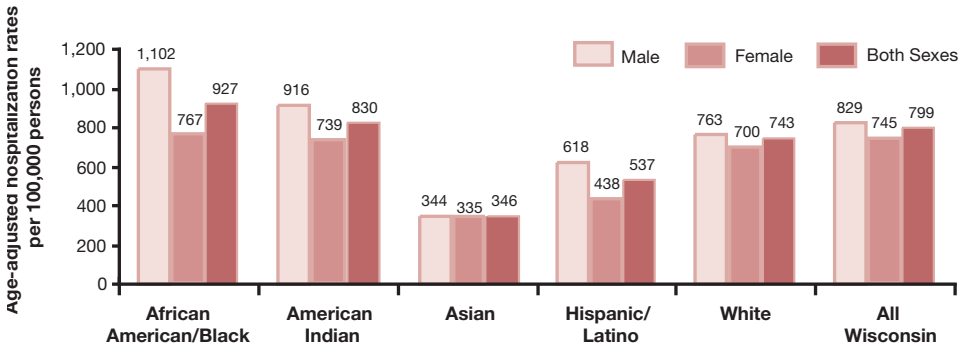
[2]Death rates are the average annual number of deaths per 100,000 population, age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths..

Hospitalizations

- For males and females combined, rates of injury-related hospitalization during 1996–2000 were higher for African American and American Indian populations (927 and 830 per 100,000, respectively) than for whites (743 per 100,000), with the highest rate among African Americans. Compared to the white population, Asians and Hispanics/Latinos were less likely to be hospitalized due to an injury.
- In almost all racial/ethnic populations, males had a higher incidence of hospitalization than females. The difference was greatest for African Americans with an injury-related hospitalization rate of 1,102 per 100,000 for males compared to 767 per 100,000 for females.
- Asian males were two times less likely to be hospitalized for an injury than white males.

Figure 46: Average annual age-adjusted injury hospitalization rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin inpatient discharge data, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

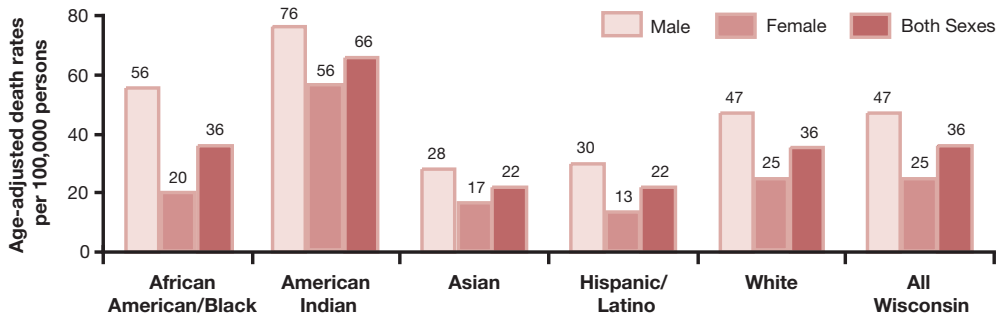
Notes: Unintentional injury hospitalizations based on E-Code ICD-9-CM: E800-E869, E880-E829.
Rates are age-adjusted to the U.S. year 2000 standard population.

Unintentional Injuries

Falls, burns, motor vehicle traffic-related crashes, poisonings, and drownings are examples of unintentional injuries.

- During 1996–2000, unintentional injuries were among the five leading causes of death in Wisconsin for all racial/ethnic groups and statewide. On average, the number of deaths each year due to unintentional injury were the following: African Americans, 85; American Indians, 24; Asians, 15; Hispanic/Latino, 25; whites, 1,756 (Appendix III, Tables R8–R12 and Table R29).
- The highest rate of unintentional injury mortality among racial/ethnic groups was in the American Indian population, with an age-adjusted rate of 66 deaths per 100,000 population. This was almost twice the rate for African Americans and whites, each with a similar rate of 36 deaths per 100,000 due to an unintentional injury.
- Unintentional injury death rates were lowest among the Asians and Hispanics/Latinos, with similar rates of 22 per 100,000.
- In all populations, males had higher unintentional injury death rates than females. American Indian males had the highest unintentional injury death rate at 76 per 100,000. They were followed by African American males (56 per 100,000) and white males (47 per 100,000). Among males, Asians had the lowest death rate due to this cause with 28 deaths per 100,000.
- Statewide, age-specific unintentional injury death rates indicate the greatest risk of death from unintentional injury is at older ages. However, relatively small numbers in the American Indian, Asian, and Hispanic/Latino populations limit age-specific comparisons.

Figure 47: Average annual age-adjusted unintentional injury death rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

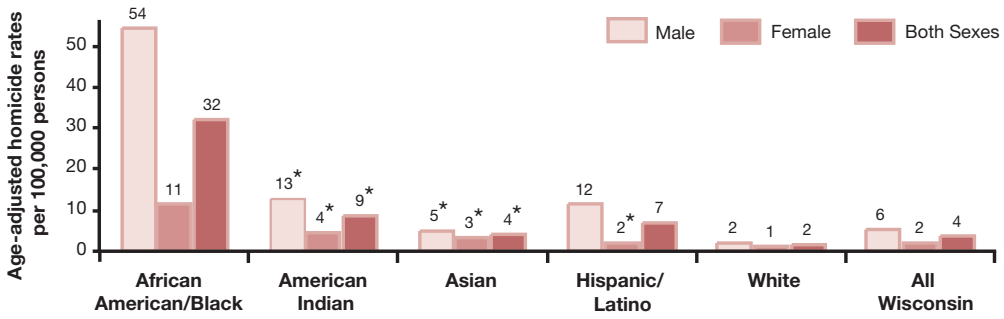
Note: Rates are age-adjusted to the U.S. year 2000 standard population.

Homicide

During 1996–2000, nearly 200 homicides occurred annually in Wisconsin. Despite the much smaller size of the African American population than whites, the annual number of African American homicides, 99, exceeded the number for whites, 80. The average annual number of homicides for other groups were: American Indians, 4; Asians, 3; and Hispanics, 12 (Appendix III, Table R31).

- Homicide was the leading cause of death among African American males and females 15 to 24 years old and African American males 25 to 44 years old.
- The 1996–2000 age-adjusted homicide rate of 32 per 100,000 for African Americans in Wisconsin exceeded the overall rate of homicide in all other racial populations. This rate was 19 times the age-adjusted rate for whites and 9 times higher than the rate for all Wisconsin.
- The second and third highest age-adjusted rates of homicide were reported, for American Indians (9 per 100,000) and Hispanics/Latinos (7 per 100,000).
- The highest homicide rate by race and age was in the African American male population, aged 15 to 24 with a rate of 130 per 100,000. By comparison, the homicide rate for white males in the same age group was 4 per 100,000 (Appendix III, Table R31). African American males were 30 times more likely to experience a homicide death than white males in this age group.
- During 1996–2000, the annual homicide rate for African American males was 54 per 100,000, while the rate for white males was 2 per 100,000. Within the African American population, there were nearly 5 male homicide victims for every one African American female death. Nevertheless, African American females were 11 times more likely than white females to be homicide victims.
- More than half of homicides in Wisconsin are due to firearms.[2]

Figure 48: Average annual age-adjusted homicide rates by race/ethnicity and sex, Wisconsin, 1996–2000



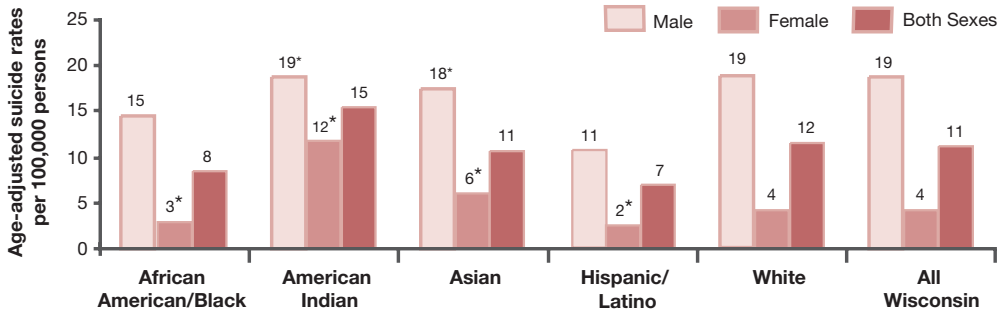
Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Rates are age-adjusted to the U.S. year 2000 standard population.
*Rate is based on an annual average of fewer than 5 deaths.

Suicide

- During 1996–2000, on average 591 suicides occurred annually in Wisconsin. Most suicides were among whites (549). The annual average number of suicides for the African American population was 21; for American Indians, 7; for Asians, 6; and for Hispanics/Latinos, 7.
- Statewide, suicide was the second leading cause of death in the age group 15 to 24 years. Males are more likely to commit suicide than females, but females are more likely to attempt suicide. The age-adjusted annual death rate due to suicide for 1996–2000 was 11 per 100,000—19 for males and 4 for females.
- The highest suicide death rate among racial populations in Wisconsin occurred in American Indians, with a rate of 15 per 100,000; the lowest rate was 7 per 100,000 for Hispanics/Latinos.
- In all racial/ethnic groups, more males than females committed suicide. African American males were 1.4 times less likely to commit suicide than whites. Hispanic/Latino males were 1.7 times less likely to commit suicide than white men.

Figure 49: Average annual age-adjusted suicide rates by race/ethnicity and sex, Wisconsin, 1996–2000



Source: Wisconsin resident death certificates, Wisconsin Department of Health and Family Services, Bureau of Health Information. Graph prepared by the Wisconsin Public Health and Health Policy Institute, University of Wisconsin-Madison.

Notes: Rates are age-adjusted to the U.S. year 2000 standard population.

*Rate is based on an annual average of fewer than 5 deaths.

Occupational Injury

Deaths

Each year, at least 58,000 people are seriously injured while working in Wisconsin. About 120 Wisconsin workers die annually from worksite injuries. Wisconsin maintains records for all deaths that occur due to occupational causes.

Industries with the largest share of fatalities were construction, transportation, agriculture, and manufacturing. These industries are significant in that they employ a larger share of "blue-collar" workers (e.g., construction laborers, truck drivers, farmers, machine operators) who are at higher risk of worksite injury deaths compared to persons employed in "white collar" jobs (e.g., secretaries, office managers, professionals).

Wisconsin data from the National Institute of Occupational Safety and Health/Fatality Assessment and Control Evaluation (NIOSH/FACE) show that males are at greater risk from worksite injury, and most injured workers were between the ages 18 and 64. The top four worksites where racial or ethnic minority workers died were construction, cashiers, transportation (including taxi drivers), and police and security services.

Table 41: Worksite injury deaths by race/ethnicity and sex, Wisconsin, 1996–2000

	African American/Black	American Indian	Asian/ Pacific Islander	Hispanic/ Latino	White	Total*
Male	15	2	2	7	416	470
Female	1	0	1	0	45	50
Total	16	2	3	7	468	520

Source: Fatality Assessment and Control (FACE) Data, Wisconsin Department of Health and Family Services, Bureau of Occupational Health.
Note: *The total number column includes 29 "unknown" race, 30 "unknown" ethnicity, and 2 "other" race.

Notes

1. National Committee for Injury Prevention and Control. *Injury Prevention: Meeting the Challenge.* New York, NY: Oxford University Press; 989:4.
2. National Center for Injury Prevention and Control Web-based Injury Statistics Query and Reporting System (WISQARS), 2001.